

REMARKS

New Claims 34 and 35 are added. Support for new Claim 34 is found in the specification, for example, at page 8, lines 10-13. Support for new Claim 35 is found in the specification, for example, at page 8, line 26, through page 9, line 3. No new matter is added by the new claims.

Upon entry of the new claims, Claims 1, 3-5, 7, 8, 10, 12, 27-30, 32 and 33-35 are pending.

Rejection of Claims 6-8, 12 and 24-26 under 35 U.S.C. §103

Claims 6-8, 12 and 24-26 are rejected under 35 U.S.C. §103 as being obvious over Kuriu (WO 00/56548) in view of Yamamoto (JP 11-199741) and Matsui (JP 2002-248721).

Applicants submit that the claims are non-obvious over the cited references because Matsui teaches away from the claims and the claims possess properties that are superior to and unexpected over the teachings of any combination of the cited references.

Matsui teaches away from the present claims. Matsui teaches a laminate film with a polyamide layer containing an antioxidant. Matsui states that this laminate film is subject to weakening when the film is subjected to an air-containing retort treatment. Matsui teaches that deviation from narrow specifications of the laminate causes an undesirable result: the strength of the film subjected to an air-containing retort treatment is significantly deteriorated, or the heat-sealing properties of the film are poor. For example, in paragraphs [0032] and [0039], Matsui states that an adhesive resin (Y) layer is always present so that a polyamide resin (X) layer is firmly adhered to a thermoplastic resin (Z) layer. Specifically, Matsui at paragraph [0039] states that if it shifts from this ratio range, the strength deterioration of the film after carrying out pneumaticity retorting is remarkable, or heat-sealing nature does not have it. Thus, Matsui requires that three layers (X)/(Y)/(Z) each having a predetermined thickness in Matsui's laminated film. In contrast, the multilayer film of the present claims does not include an adhesive layer. Accordingly, Matsui teaches away from the present claims, which do not include an adhesive layer. As such, Matsui is evidence of the non-obviousness of the present claims.

In response to the above comments, the Office Action states that Matsui teaches an antioxidant, and there is no requirement to incorporate the teachings of the secondary reference Matsui into the polyamide of the primary reference of Kuriu. However, it is well established that a reference must be considered in its entirety, i.e., as a whole, including portions that would lead away from the claimed invention. *M.P.E.P. §2141.02.VI*; see also *W.L. Gore & Associates, Inc. v. Garlock, Inc.*, 721 F.2d 1540, 220 USPQ 303 (Fed. Cir. 1983), *cert. denied*, 469 U.S. 851 (1984). Clearly, Matsui provides evidence of the non-obviousness of the reference, and the Office Action provides no basis for disregarding this teaching. Moreover, the USPTO's stated reason for combining Matsui with the remaining references is that one would use Matsui's teachings of an antioxidant to minimize strength reduction. However, Matsui's primary teaching for minimizing strength reduction is to use the laminated film which contains adhesive layer (Y). Thus, one of ordinary skill relying on the teachings of Matsui to minimize strength reduction would incorporate adhesive layer (Y). As such, this teaching away must be considered because it directly addresses the asserted rationale for combining the teachings of Matsui with the teachings of Kuriu. When the teachings of Matsui are considered as a whole, Matsui provides further support for the non-obviousness of the claims.

Furthermore, Applicants have found that when an antioxidant is also present in the polyamide layer of the invention, haze suppression during retort is improved. See *Specification* at Examples and Comparative Examples. This improved property would not be expected in view of the cited references. As such, the claims are further non-obvious over the cited references.

The Office Action states that the evidence of haze suppression effects taught by the specification is unclear because only one Comparative Example omits antioxidant. However, the results reported in Applicants' Examples and Comparative Examples are clear. Applicants have found that the claimed film, when containing the components recited in the claims, possesses superior haze suppression during retort. Each of Applicants Comparative Examples demonstrates that failing to incorporate any one of several components in accordance with the claims results in inferior haze suppression during retort. In Comparative Example 4, an antioxidant was not added, and the film showed "slight whitening" during retort treatment at both 121°C× 30 min and 135°C× 30 min. To further demonstrate the "slight whitening" observed,

Applicants submit herewith as Exhibit 1 pictures of products using such a “slightly whitened” film (Figs. 1 and 2). In Fig. 1, the right side of the product is whitish; and in Fig. 2, the middle portion is striped and whitish. If the contents cannot be clearly seen, as in Figs. 1 and 2, the film is useless as a wrapping film.

As disclosed in the present specification on page 21, line 15 to page 22, line 2, the polyamide-based multilayer film of the present invention has outstanding resistance to boiling water and retort treatment. In particular, the polyamide-based multilayer of the presently claimed invention is free of whitening when heated. Examples 1 and 2, in which an antioxidant was added, provided outstanding “whitening-free” films, as stated above. In contrast, in Comparative Example 4, where no antioxidant was added, a “slightly whitened” film resulted, which was useless as a wrapping film.

Accordingly, the Examples and Comparative Examples of the present specification fully prove the effects obtained by the antioxidant addition, and such effects cannot be expected from the references. In particular, the references provide no reason to believe that antioxidant can influence whitening/haze formation during retort, particularly since the superior effects of the antioxidant’s effects are prominent when the remaining components of the film are present in accordance with the present claims.

In view of the above, Applicants respectfully request reconsideration and removal of the above obviousness rejection of the claims.

Rejection of Claim 31 under 35 U.S.C. §103

Claim 31 is rejected under 35 U.S.C. §103 as being obvious over Kuriu (WO 00/56548) in view of Yamamoto (JP 11-199741) and Toyozumi (JP 2002-338770).

Claim 31 is canceled. Accordingly, this rejection is moot.

Rejection of Claim 32 under 35 U.S.C. §103

Claim 32 is rejected under 35 U.S.C. §103 as being obvious over Kuriu (WO 00/56548) in view of Yamamoto (JP 11-199741) and Tanaka (JP 2002-172742).

Claim 32 is non-obvious over the cited references because the cited references do not teach all elements of the claims, and because Tanaka teaches away from Claim 32 and is not combinable with Kuriu.

No combination of the cited references can render Claim 32 obvious because no combination of the references teaches a modified ethylene-vinyl acetate copolymer, an ethylene-methacrylic acid copolymer ionomer, and an antioxidant.

Kuriu describes a multilayered polyamide film with improved pinhole resistance. Kuriu for example at Example 1 describes a multilayer film comprising polyamide resin (a composition consisting of Ny-6 and modified EVA)/EVOH/polyamide resin (a composition consisting of Ny-6 and modified EVA). Kuriu mentions, in column 2, line 39, that antioxidants may also be contained. However, Kuriu fails to teach a "polyamide layer" further comprising "a modified ethylene-vinyl acetate copolymer, an ethylene-methacrylic acid copolymer ionomer, and an antioxidant" in addition to an aliphatic polyamide and aromatic polyamide.

Yamamoto describes a resin composition containing a polyamide layer, alcohol-based compound, and EVOH. However, Yamamoto nowhere teaches that the polyamide layer contains all of the following: an "aliphatic polyamide, aromatic polyamide, a modified ethylene-vinyl acetate copolymer, an ethylene-methacrylic acid copolymer ionomer, and an antioxidant." Furthermore, Yamamoto nowhere teaches a multilayer film to which a polyamide layer is added.

Tanaka teaches a biaxially stretched laminated film containing three layers. However, Tanaka nowhere teaches that the polyamide layer contains all of the following: an "aliphatic polyamide, aromatic polyamide, a modified ethylene-vinyl acetate copolymer, an ethylene-methacrylic acid copolymer ionomer, and an antioxidant."

In view of the above, no combination of the cited references can render Claim 32 obvious because no combination of the references teaches a modified ethylene-vinyl acetate copolymer, an ethylene-methacrylic acid copolymer ionomer, and an antioxidant.

In addition, Tanaka teaches away from the claims. Tanaka at paragraph [0005] teaches that the Y layer "consists of" aliphatic amide. Thus, Tanaka's Y layer contains only aliphatic polyamide, and contains no aromatic amide. Tanaka provides other layers that contain aromatic polyamide, but those layers require that in such layers, at least 20% aromatic polyamide must be

present. Accordingly, each of the layers taught by Tanaka is contrary to that recited in Claim 32. As such, one of ordinary skill following the teachings of Tanaka would be directed away from the present claim.

In view of the above, Applicants respectfully request reconsideration and removal of the above obviousness rejection of Claim 32.

Rejection of Claims 1, 3-5, 10, 12, 27-30, 32 and 33 under 35 U.S.C. §103

Claims 1, 3-5, 10, 12, 27-30, 32 and 33 are rejected under 35 U.S.C. §103 as being obvious over Kuriu (WO 00/56548) in view of Yamamoto (JP 11-199741) and Toyozumi (JP 2002-338770).

Applicants respectfully submit that the claims are non-obvious over the cited references because the references cannot be combined in such a way as to teach all elements of the presently pending claims.

Kuriu teaches a multilayer film comprising a polyamide resin layer/EVOH layer/polyamide resin layer, wherein the polyamide resin layers comprise a composition consisting of nylon 6 (86.0 wt.%), poly(m-xylylene adipamide) (10.0 wt.%), and a modified ethylene-vinyl acetate copolymer (4.0 wt.%) (Kuriu at Example 2). Kuriu also teaches that the film may contain an antioxidant (column 2, line 39). However, Kuriu fails to teach an ionomer, which is an essential component of the presently claimed invention; and Kuriu also fails to teach an EVOH layer that comprises a polyamide resin and an alcohol-based compound.

Yamamoto teaches a composition containing EVOH, a polyamide resin, and an alcohol-based compound. Yamamoto teaches that the addition of an alcohol-based compound to a known composition containing EVOH and a polyamide resin ensures improved retort resistance (Yamamoto at paragraphs [0003] and [0004]). However, Yamamoto fails to teach an ethylene-methacrylic acid copolymer ionomer.

Toyozumi teaches that the addition of ethylene-methacrylic acid copolymer ionomer to a blend of known EVOH and polyamide ensures improved gas barrier properties and pinhole resistance (Toyozumi at paragraphs [0002] to [0005]). Further, Toyozumi teaches that the

ionomer is added in an amount of 3 to 15 parts by weight based on 100 parts by weight of the total weight of EVOH and polyamide-based resin (Toyozeni at paragraph [0029]).

The Office Action states that it would be obvious to a person skilled in the art to modify the EVOH layer taught by Kuriu (as in Example 2) by adding the polyamide resin and alcohol-based compound taught by Yamamoto, in order to impart retort resistance. The Office Action also states that adding the ionomer taught by Toyozeni to a multilayer film obtained by the combination of Kuriu and Yamamoto, in order to impart pinhole resistance and gas barrier properties, would have been obvious to a person skilled in the art.

However, the teachings of these references cannot be combined for the reasons described below.

Toyozeni discloses in paragraph [0028] that the ratio of EVOH/polyamide-based resin is 50/50 to 99/1 (preferably 60/40 to 97/3, and more preferably 70/30 to 95/5); accordingly, Toyozeni clearly teaches that the amount of EVOH exceeds the amount of the polyamide-based resin. However, in Kuriu, the polyamide layer mainly comprises polyamide-based resin (see, e.g., Kuriu at column 2, lines 13-18), and, for example, the mixing ratio of modified ethylene-vinyl acetate copolymer is only 4 wt % (see Kuriu at Example 2). Hence, the teachings of Toyozeni and Kuriu are incompatible: it is not possible to follow the teachings of Toyozeni (main component must be EVOH) and the teachings of Kuriu (main component must be polyamide). Following the teachings of Toyozeni necessarily goes contrary to the teachings of Kuriu, and *vice versa*. It is improper to combine references where the references teach away from their combination. *M.P.E.P. §2145.X.D.2*; see also *In re Grasselli*, 713 F.2d 731, 743, 218 USPQ 769, 779 (Fed. Cir. 1983). Thus, the teachings of Toyozeni and Kuriu cannot be combined; accordingly, Claims 1, 12, 27, and 32, and claims dependent therefrom, are non-obvious over Kuriu in view of Yamamoto and Toyozeni. In view of the above, Applicants respectfully request reconsideration and removal of the above obviousness rejection of the claims.

New Claims 34 and 35 further are non-obvious over the cited references because Toyozeni clearly teaches away from the quantities of components recited in Claims 34 and 35 (Toyozeni at paragraphs [0028] and [0029]).

Rejection of Claim 3 under 35 U.S.C. §103

Claim 3 is rejected under 35 U.S.C. §103 as being obvious over Kuriu (WO 00/56548) in view of Yamamoto (JP 11-199741), Toyozumi (JP 2002-338770) and Tokoh (U.S. Pat. No. 5,428,094).

Claim 3 is non-obvious for at least the reasons provided above. In particular, Claim 3 depends from Claim 1, and Kuriu, Yamamoto and Toyozumi cannot be combined to render Claim 1 obvious. Tokoh does not teach that which is lacking in the absence of the combination of Kuriu, Yamamoto and Toyozumi. Accordingly, no combination of the cited references can render Claim 3 obvious. In view of the above, Applicants respectfully request reconsideration and removal of the above obviousness rejection of Claim 3.

Rejection of Claims 7 and 8 under 35 U.S.C. §103

Claims 7 and 8 are rejected under 35 U.S.C. §103 as being obvious over Kuriu (WO 00/56548) in view of Yamamoto (JP 11-199741), Toyozumi (JP 2002-338770) and Matsui (JP 2002-248721).

Claims 7 and 8 are non-obvious for at least the reasons provided above. In particular, Claims 7 and 8 ultimately depend from Claim 1, and Kuriu, Yamamoto and Toyozumi cannot be combined to render Claim 1 obvious. Matsui does not teach that which is lacking in the absence of the combination of Kuriu, Yamamoto and Toyozumi. Accordingly, no combination of the cited references can render Claims 7 and 8 obvious.

Furthermore, Claims 7 and 8 are non-obvious over the cited references because Matsui teaches away from the claims. Matsui teaches a laminate film with a polyamide layer containing an antioxidant. Matsui states that this laminate film is subject to weakening when the film is subjected to an air-containing retort treatment. Matsui teaches that deviation from narrow specifications of the laminate causes an undesirable result: the strength of the film subjected to an air-containing retort treatment is significantly deteriorated, or the heat-sealing properties of the film are poor. For example, in paragraphs [0032] and [0039], Matsui states that an adhesive resin (Y) layer is always present so that a polyamide resin (X) layer is firmly adhered to a thermoplastic resin (Z) layer. Specifically, Matsui at paragraph [0039] states that if it shifts from

this ratio range, the strength deterioration of the film after carrying out pneumaticity retorting is remarkable, or heat-sealing nature does not have it. (emphasis added). Thus, Matsui requires that three layers (X)/(Y)/(Z) each having a predetermined thickness in Matsui's laminated film. In contrast, the multilayer film of the present claims does not include an adhesive layer. Accordingly, Matsui teaches away from the present claims, which do not include an adhesive layer. As such, Matsui is evidence of the non-obviousness of the present claims.

Furthermore, none of Kuriu, Yamamoto, and Matsui teaches an ionomer. Thus, no combination of these references possesses all elements of the presently claimed invention. Accordingly, the claims are further non-obvious over the cited references.

In view of the above, Applicants respectfully request reconsideration and removal of the above obviousness rejection of Claims 7 and 8.

Rejection of Claim 32 under 35 U.S.C. §103

Claim 32 is rejected under 35 U.S.C. §103 as being obvious over Kuriu (WO 00/56548) in view of Yamamoto (JP 11-199741), Toyozumi (JP 2002-338770) and Tanaka (JP 2002-172742).

Claim 32 is non-obvious for at least the reasons provided above. In particular, Kuriu, Yamamoto and Toyozumi cannot be combined to render Claim 32 obvious. Tanaka does not teach that which is lacking in the absence of the combination of Kuriu, Yamamoto and Toyozumi. Accordingly, no combination of the cited references can render Claim 32 obvious. In view of the above, Applicants respectfully request reconsideration and removal of the above obviousness rejection of Claim 32.

Rejection of Claim 27 under 35 U.S.C. §103

Claim 27 is rejected under 35 U.S.C. §103 as being obvious over Kuriu (WO 00/56548) in view of Yamamoto (JP 11-199741), Toyozumi (JP 2002-338770) and Shibuya (JP 06-345919).

Claim 27 is non-obvious for at least the reasons provided above. In particular, Kuriu, Yamamoto and Toyozumi cannot be combined to render Claim 27 obvious. Shibuya does not teach that which is lacking in the absence of the combination of Kuriu, Yamamoto and

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Toyozumi. Accordingly, no combination of the cited references can render Claim 27 obvious. In view of the above, Applicants respectfully request reconsideration and removal of the above obviousness rejection of Claim 27.

No Disclaimers or Disavowals

Although the present communication may include alterations to the application or claims, or characterizations of claim scope or referenced art, Applicant is not conceding in this application that previously pending claims are not patentable over the cited references. Rather, any alterations or characterizations are being made to facilitate expeditious prosecution of this application. Applicant reserves the right to pursue at a later date any previously pending or other broader or narrower claims that capture any subject matter supported by the present disclosure, including subject matter found to be specifically disclaimed herein or by any prior prosecution. Accordingly, reviewers of this or any parent, child or related prosecution history shall not reasonably infer that Applicant has made any disclaimers or disavowals of any subject matter supported by the present application.

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CONCLUSION

In view of the above, Applicants respectfully maintain that claims are patentable and request that they be passed to issue. Applicants invite the Examiner to call the undersigned if any remaining issues might be resolved by telephone.

Please charge any additional fees, including any fees for additional extension of time, or credit overpayment to Deposit Account No. 11-1410.

Respectfully submitted,

KNOBBE, MARTENS, OLSON & BEAR, LLP

Dated: January 4, 2010

By: /Kerry Taylor/
Kerry Taylor
Registration No. 43,947
Attorney of Record
Customer No. 20,995
(619) 235-8550

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010410

Fig.1

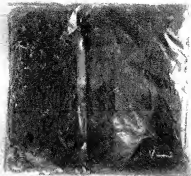


Fig.2

